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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,537	03/28/2001	Randall K. Curey	P573C	6434
23586	7590	11/04/2003	EXAMINER	
ROBERT E MALM 16624 PEQUENO PLACE PACIFIC PALISADES, CA 90272			MOSLEHI, FARHOOD	
			ART UNIT	PAPER NUMBER
			2126	2
DATE MAILED: 11/04/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,537

Applicant(s)

CUREY ET AL.

Examiner

Farhood Moslehi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. Claims 1-49 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1,2,6-9,21-22,25-27,31-34,46,47 are rejected under 35 U.S.C. 102(b) as being anticipated by Maitra (5,623,647).
4. As per claim 1, Maitra discusses a method for repetitively executing a plurality of software packages at one or more rates, utilizing a common set of computational resources, the method comprising the steps:

Generating a sequence of time intervals for each of the plurality of software packages, the time intervals belonging to one software package not overlapping the time intervals belonging to any other of the plurality of software packages (e.g. col. 6, lines 34-39);

executing a plurality of software packages, each software package being executed during the time intervals of its sequence of time intervals (e.g. col. 6, lines 40-55).
5. As per claim 25, it is rejected for the similar reasons as stated above.
6. As per claim 26, it is rejected for the similar reasons as stated above.
7. As per claim 27, it is rejected for the similar reasons as stated above.

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8. As per claim 2, Maitra teaches the method wherein the plurality of software packages of the “executing” step includes only valid software packages, the method further comprising the step:

Utilizing one or more tests to identify the software packages that are valid (e.g. col.6, lines 56-67).

9. As per claim 6, Maitra teaches a method wherein a software package is assigned its own dedicated memory region, the software package's dedicated memory region including a stack memory region and /or a heap memory region, one of the tests for validity being whether the stack memory range and/or the heap memory range assigned during the execution of the software package's initialization procedure and the various associated entry points lies within the software package's dedicated memory region (e.g. col. 7, lines 66-67 and col. 8, lines 1-20).

10. As per claim 31, it is rejected for the similar reasons as stated above.

11. As per claim 8, it is rejected for the similar reasons as stated above.

12. As per claim 33, it is rejected for the similar reasons as stated above.

13. As per claim 9, it is rejected for the similar reasons as stated above.

14. As per claim 34, it is rejected for the similar reasons as stated above.

15. As per claim 7, Maitra teaches a method wherein one of the tests is whether the stack memory range and/or the heap memory range and the various associated entry points are returned within a predetermined time (e.g. col. 3, lines 4-19).

16. As per claim 32, it is rejected for the similar reasons as stated above.

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17. As per claim 21, Maitra shows a method wherein an executive software package enforces the discipline that each software package executes only during the time intervals of its sequence of time intervals, the executive software package determining when the execution of a software package extends into a time interval belonging to the sequence of time intervals assigned to another software package and performs a remedial action (e.g. col. 4, lines 22-35). The Operating System provides the above functionality for any number of software packages or applications.

18. As per claim 46, it is rejected for the similar reasons as stated above.

19. As per claim 22, Maitra shows a method wherein the presence of those software packages that are present is detected (e.g. col. 4, lines 22-35). It is inherent for any Operating System to detect the presence of applications that are either queued or presently in execution.

20. As per claim 47, it is rejected for the similar reasons as stated above.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 3-5, 18-20, 28-30, 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maitra in view of Jablon et al (5,421,006) (hereinafter Jablon).

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23. As per claim 3, Maitra does not discuss the method of the above claim wherein one of the tests for validity is a one's complement checksum test of a software package's program memory. Jablon teaches the method of the above claim wherein one of the tests for validity is a one's complement checksum test of a software package's program memory (e.g. col. 5, lines 4-18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Jablon in order to test the validity of the software application using a one's complement checksum method.

24. As per claim 28, it is rejected for the similar reasons as stated above.

25. As per claim 4, Maitra does not teach a method wherein a software package is assigned its own dedicated memory region, one of the tests for validity being whether the address returned for the software package's initialization procedure lies within its dedicated memory region. Jablon teaches a method wherein a software package is assigned its own dedicated memory region, one of the tests for validity being whether the address returned for the software package's initialization procedure lies within its dedicated memory region (e.g. col. 6, lines 27-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Jablon in order to have set memory partitions for each software package and the validity test being conducted within predefined memory regions.

26. As per claim 29, it is rejected for the similar reasons as stated above.

27. As per claim 5, Maitra does not discuss a method wherein one of the tests is whether the address is returned within a predetermined time. Jablon teaches a method

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wherein one of the tests is whether the address is returned within a predetermined time (e.g. col. 7, lines 21-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Jablon in order to have a predetermined time to test the software validity.

28. As per claim 30, it is rejected for the similar reasons as stated above.

29. As per claim 18, Maitra does not show a method wherein safety-critical software is placed in one or more separate partitions thereby isolating the safety-critical software from non-safety-critical software. Jablon shows a method wherein safety-critical software is placed in one or more separate partitions thereby isolating the safety-critical software from non-safety-critical software (e.g. col. 6, lines 27-38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Jablon in order to isolate different software packages in different partitions.

30. As per claim 43, it is rejected for the similar reasons as stated above.

31. As per claim 19, Maitra does not teach a method wherein each of the plurality of software packages is assigned its own memory block, a software package being enabled to read data only from zero or more memory blocks associated with other software packages, the zero or more memory blocks readable by a software package being either predetermined or determined during execution of the software packages in accordance with a set of one or more rules. Jablon teaches a method wherein each of the plurality of software packages is assigned its own memory block, a software package being enabled to read data only from zero or more memory blocks associated with other software packages, the zero or more memory blocks readable by a software

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package being either predetermined or determined during execution of the software packages in accordance with a set of one or more rules (e.g. col. 8, lines 16-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Jablon in order to provide for software packages to read and write memory blocks from other software packages in accordance with a predetermined set of rules.

32. As per claim 20, it is rejected for the similar reason as stated above.

33. As per claim 44, it is rejected for the similar reasons as stated above.

34. As per claim 45, it is rejected for the similar reasons as stated above.

35. Claims 10,12,35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maitra in view of Reznak (6,223,201).

36. As per claim 10, Maitra does not teach a method wherein a software package includes background tasks as well as foreground tasks, the background tasks being performed after the foreground tasks have been completed. Reznak teaches a method wherein a software package includes background tasks as well as foreground tasks, the background tasks being performed after the foreground tasks have been completed (e.g. col. 1, lines 25-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Reznak in order to have a background and a foreground application processing whereby the background process executes when the foreground processes cease to operate.

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37. As per claim 12, Maitra teaches the method wherein the software package causes the power utilized in executing the software package to be minimized after completion of the background task (e.g. col. 2, lines 39-48).

38. As per claim 35, it is rejected for the similar reasons as stated above.

39. As per claim 37, it is rejected for the similar reasons as stated above.

40. Claims 11 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maitra in view of Reznak and further in view of Davidson et al. (6,292,934) (hereinafter Davidson).

41. As per claim 11, Maitra does not show the method wherein a background task is an infinite loop. Davidson teaches the method wherein a background task is an infinite loop (e.g. col. 17, lines 32-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Davidson in order to have the background process run in an infinite loop.

42. As per claim 36, it is rejected for the similar reasons as stated above.

43. Claims 13,14,38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maitra in view of Yen (6,381,694).

44. As per claim 13, Maitra does not specifically teach a method wherein a failure in the execution of a software package causes information to be logged in a failure log. Yen teaches a method wherein a failure in the execution of a software package causes information to be logged in a failure log (e.g. col. 6, lines 49-59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Yen in order to log the failure of a software package.

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45. As per claim 38, it is rejected for the similar reasons as stated above.

46. As per claim 14, Maitra does not show a method wherein a failure in execution is linked to the software package that caused the failure. Yen shows a method wherein a failure in execution is linked to the software package that caused the failure (e.g. col. 5, lines 1-16 and Figures 3 and 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Yen in order to observe whether or not the failure is caused by a software package.

47. As per claim 39, it is rejected for the similar reasons as stated above.

48. Claims 15-17 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maitra in view of Yen and in further view of Harper et al. (6,629,266) (hereinafter Harper).

49. As per claim 15, Maitra does not specifically discuss the method wherein quality of performance in executing a software package is represented by one or more performance-quality parameters, values of the one or more performance-quality parameters being determined from the information logged in a failure log, the execution of a software package being subject to a plurality of execution options, an execution option being selected on the basis of one or more performance-quality parameter values. Harper teaches the method wherein quality of performance in executing a software package is represented by one or more performance-quality parameters, values of the one or more performance-quality parameters being determined from the information logged in a failure log, the execution of a software package being subject to a plurality of execution options, an execution option being selected on the basis of one

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or more performance-quality parameter values (e.g. col. 13, lines 35-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Harper in order to provide for a performance based system whereby the log file can monitor and determine the packages performance.

50. As per claim 40, it is rejected for the similar reasons as stated above.

51. As per claim 16, Maitra does not teach a method wherein the plurality of execution options are user configurable. Harper teaches a method wherein the plurality of execution options are user configurable (e.g. Figure 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Harper in order to provide for user configurable parameters.

52. As per claim 41, it is rejected for the similar reasons as stated above.

53. As per claim 17, Maitra does not teach a method wherein performance-quality parameters include the number pf failures and/or the rate of failures for one or more classes of failures recorded in a software package's failure log. Harper shows a method wherein performance-quality parameters include the number pf failures and/or the rate of failures for one or more classes of failures recorded in a software package's failure log (e.g. col. 2, lines 32-35 and Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Harper in order to provide for performance monitoring based on failure rate.

54. As per claim 42, it is rejected for the similar reasons as stated above.

55. Claim 23 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maitra in view of Potter et al. (5,014,327) (hereinafter Potter).

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56. As per claim 23, Maitra does not describe a method wherein one or more of the plurality of software packages are independently compiled, linked and loaded. Potter shows a method wherein one or more of the plurality of software packages are independently compiled, linked and loaded (e.g. col. 7, lines 40-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Potter to provide for a software package to be independently compiled, linked and loaded by the Operating System.

57. As per claim 48, it is rejected for the similar reasons as stated above.

58. Claims 24 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maitra in view of Circello et al. (5,761,491) (hereinafter Circello).

59. As per claim 24, Maitra does not show a method wherein a software package has its own stack, the software package's stack being selected prior to executing the software package. Circello shows a method wherein a software package has its own stack, the software package's stack being selected prior to executing the software package (e.g. col. 35-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maitra and Circello in order for the software's stack to be executed and selected by a process.

60. As per claim 49, it is rejected for the similar reasons as stated above.



Conclusion

61. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US Patent number 6,041,384 to Waddington et al.

US Patent number 6,43,656 to Arimilli et al.

IBM Technical Disclosure Bulletin NN9311321.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhood Moslehi whose telephone number is 703-305-8646. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 703-305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5484.

fm



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